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(54) Title: POINT-OF-SALE ADVERTISEMENT SYSTEM

(57) Abstract: A point-of-sale advertisement system comprises a host computer having a store/lane database, an add database, group data, playlists and a playlist builder. The playlist builder comprises playlists on a lane-by-lane basis. The playlists are downloaded to a store controller running a playlist reader. The store controller communicates with a terminal application running at a point-of-sale location to control a display and other hardware at the point-of-sale location. A customer card reading unit reads data from a customer card, if available, and a scanning unit scans to identify the products being purchased. The terminal application communicates with the store controller where the playlist reader informs the terminal application what advertisements to display. The choice of advertisements to display may be based on a customer profile if a customer uses a customer card, or the items purchased at the time by the customer, or the date and time. If the customer does not have a customer card, the advertisement system displays an advertisement based on the first item purchased that has a corresponding advertisement in the database. If no items are purchased that have corresponding advertisements in the database, then the advertisement system displays an advertisement based on the date and time of the purchase.

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## POINT-OF-SALE ADVERTISEMENT SYSTEM

### BACKGROUND OF THE INVENTION

#### 1. Field of the Invention

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The present invention relates generally to a point-of-sale advertisement display system and method. Specifically, the invention relates to a system and method for modifying an advertisement on an electronic display at a point-of-sale location using a customer's profile obtained from a customer card, the products being purchased by the customer, or a date and time criteria. A combination of these factors may also be used to modify the

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advertisements displayed.

#### 2. Description of Related Art

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An important part of most businesses includes effective advertising. Many advertising methods focus advertising information on a specific group of people, such as men, women, athletes, etc. For example, advertisers on television may choose specific programs and time periods with the goal of reaching a target audience known to be interested in that program.

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The period of time during the point-of-sale experience, for example the check-out stand at a supermarket, provides a potent opportunity to focus advertising on the individual customer. At the point-of-sale, information about the customer may be obtained. For example, the customer's buying habits and preferences are known by the items presently being purchased. A business may issue customer cards used to track information regarding

the kinds of products the customer typically will purchase, income, family status, or other information. A store can use this information to serve the customer better and provide targeted and more effective advertising geared towards the individual customer's buying habits.

5           Large and small retail stores employ computer systems that only provide a 2 x 20 text-based display to inform the customer of what items are being purchased and the cost. For example, most large supermarkets and similar stores use IBM's 4690 retail operating system on hardware such as IBM's Netfinity computers. IBM's 4680-4690 retail operating system host application are called the "Supermarket Application" and the 4680-4690 "General Sales  
10 Application" (GSA). These applications presently only provide text information about the items being purchased, a running total and the weight of products on the scale at the point-of-sale. These operating systems provide a reliable and efficient means of handling many different check-out stands or points-of-sale in various stores for large retail chain operations, but are not designed to provide the additional features which could include electronic  
15 advertising at the point-of-sale. Furthermore, the retail applications do not offer any means of advertising or displaying graphical images that are integrated with the operating system presently used.

While graphical advertising systems have not previously been available, a coupon-printing system is known to exist. The coupon-printing system involves printing coupons on  
20 the backside of the store receipt or on a separate coupon printer that relate or correspond to the items purchased. Such a system is disclosed in U.S. Patent No. 4,910,672 to Off et al. and U.S. Patent No. 4,723,212 to Mindrum et al. Off et al. teach a system that monitors the purchases of the customer for items that trigger the creation of a coupon. Once an item triggers the creation of a coupon, at least one associated "coupon deal record" is retrieved,  
25 and a coupon will be printed subject to a predetermined maximum number of coupons per

transaction. The system also validates coupons presented by the customer for redemption, compares those coupons to the items purchased and insures that the coupon has not expired.

Another coupon-printing system is disclosed in U.S. Patent No. 5,832,457 to O'Brien et al. The O'Brien et al. system prints coupons according to a pre-selected combination of information, including present and past shopping behavior of a customer, and customer  
5 supplied data obtained from a customer identification database. Once the pre-selected conditions are satisfied, a coupon is printed.

These coupon-printing systems have deficiencies, however. Many customers do not notice the coupons. Those that do notice the coupons may not be impressed or persuaded to  
10 use the coupons to purchase the product because the coupon may not provide an animated or compelling image. Furthermore, the coupon is easily lost or thrown away and thus useless. Coupons are limited in their capability to motivate a customer's buying habits in the same manner as effective advertising. Therefore, simply providing a coupon to a customer does not fully take advantage of the information known about the particular customer at the point-  
15 of-sale. Therefore, the conventional coupon-printing system does not adequately optimize the potential for directed advertising.

### SUMMARY OF THE INVENTION

What is needed in the art is a point-of-sale advertisement system that presents a  
20 compelling and easily remembered advertisement to a customer. Furthermore, what is needed in the art is a graphical advertisement system that is integrated with the present application used by large supermarkets, for example, IBM's 4690 supermarket application or the like. By integrating a point-of-sale advertisement system with the retail applications already in place, a more economical advertisement system is employed which requires a

minimal amount of additional hardware and which draws on the data and operating system functions already used.

In order to address the deficiencies in the related art, a point-of-sale system is proposed comprising a central host computer (also called an Ad Jukebox™), a retail store  
5 host computer, a store controller for each store associated with each retailer, and a terminal application at each point-of-sale. Each point-of-sale location also includes a card scanner, a product scanner, a cash register, and at least one display. The central host computer stores a variety of databases: a store/lane database, an ad database, group databases, and playlists. The central host computer also stores a playlist builder. The store/lane database stores  
10 information corresponding to individual stores and the number and types of lanes in that store. For example, a store may have 12 regular check-out lanes, an express lane and a deli counter lane. The group databases include customized information for a specific retailer. Group databases may comprise, for example, "groups" of stores, and specific lanes in that group of stores. For example, a group database may consist of all grocery stores in California  
15 at beach-front areas, and all the express lanes in those stores. The group database structure is determined by the retailer and is customizable in a variety of different forms.

The playlists include advertisements for a particular group and when the advertisements are displayed. The playlists include advertisement display criteria. For example, a playlist will include criteria to display a particular advertisement based on the date  
20 and time, the purchase of a triggering item, or the demographics or profile of the customer (if a customer card is used). A combination of these factors may be used to determine which advertisement from the playlist will be displayed at what time.

The playlist builder creates playlists on a lane-by-lane basis using a predetermined schedule, such as, for example, daily, weekly, or monthly. The playlist building schedule is  
25 customizable by the individual stores. The central host computer stores and runs the playlist

builder that builds the customized playlists for each check-out lane. The built playlists are downloaded to the retail store controller. The store controller includes a playlist reader that will read the playlists and instruct the terminal application regarding what advertisements to display at an individual lane.

5           As an example of the operation of the point-of-sale advertisement system of the present invention, consider a customer in a supermarket check-out lane. When the customer arrives at the cashier's location, the customer card may be "swiped" on a standard card reading system that is well known to those in the art. The point-of-sale advertisement system first displays an advertisement according to a customer profile if a customer card is  
10   used near the beginning of the transaction. It is estimated that a typical store check-out experience lasts between 30 seconds and 2 ½ minutes. Therefore, if the customer card is "swiped" near the beginning of the transaction, the terminal application informs the store controller that a customer card has been used. The playlist reader on the store controller will then read the playlist for that lane. If the playlist reader is built to present an advertisement  
15   based on a customer profile, the customer profile is retrieved from a database, and an advertisement that is chosen according to the profile demographics is shown for the duration of the check-out experience.

          If the customer does not present a customer card, then the terminal application searches for items purchased that trigger the retrieval of an advertisement. Some items will  
20   be programmed to correspond to an advertisement that will appeal to the customer purchasing the item. If such a "triggering" item is purchased, the terminal application will inform the store controller of that item, and request from the playlist reader which advertisements to display. The playlist reader will read the playlist for that lane and inform the terminal application regarding the chosen advertisement to display based on the triggering item  
25   purchased. The triggering factor may be the SKU of the purchased item, in which case the

playlist reader 54 will check to determine if the SKU will correspond to a particular advertisement in the playlist 20.

Once the triggering item is purchased, the advertisement is displayed for the remainder of the check-out experience. If the customer does not use a customer card or purchase a triggering item, an advertisement based on the date and time of the purchase is displayed throughout the entire transaction.

### BRIEF DESCRIPTION OF THE DRAWINGS

The present invention may be understood by reference to the following drawings,

10 wherein:

FIG. 1 illustrates an overview of the hardware components used in the present invention;

FIG. 2 illustrates the hardware and software components used at the point-of-sale;

FIG. 3 illustrates a flow diagram for a software algorithm according to the first embodiment of the present invention;

FIG. 4 illustrates the database structure for the playlists;

FIG. 5 illustrates the database structure for the store/lane database;

FIG. 6 illustrates the data structure for the advertisement database;

FIG. 7 illustrates the database structure for the group database; and

20 FIG. 8 illustrates the preferred embodiment of the display.

### DETAILED DESCRIPTION OF THE INVENTION

The first and preferred embodiment of the present invention will be described with reference to Fig. 1. The point-of-sale advertising system 10 comprises a network of computer systems connected via the Internet 34, hardware associated with point-of-sale, and a software

program operating on the computer network and at the point-of-sale for controlling the display of advertisements. A central host computer 12 communicates with at least one retail store controller or host computer 40, a store controller 46 and at least one point-of-sale register 50. The central host computer 12 is a centralized computer server and may be an IBM AS-400, RS/6000, IBM Systems 390 computer, or some other similar host computer system. In the preferred embodiment, the central host computer 12 operates a retail store application such as IBM's 4680-4690 "Supermarket Application" or the 4680-4690 "General Sales Application" (GSA) running on top of IBM's 4690 retail operating system. Other retail store operating systems are contemplated as being within the scope of the present invention, and such systems will be known to those of ordinary skill in the art. The central host computer 12 runs a playlist builder 28, also known as the Ad Jukebox™. In the preferred embodiment, the playlist builder 28 and other software disclosed herein is developed and programmed using JAVA.

The central host computer 12 contains a store and lane database 14. This database 14 consists of every store and every lane in each store of a particular retail chain or multiple retail chains. For example, the store and lane database will contain for a chosen store, four regular check out lanes, an express lane, and a deli lane. The store/lane database 14 also includes data from different store chains when the central host computer 12 supports scheduling advertisements across multiple store chains. Each lane in the database include its own set of descriptive fields. Figure 5 illustrates an example of the database structure for the store/lane database. The store/lane database includes store and lane descriptions 182, 184, a store address 186, a primary and secondary store controller IP addresses 188, store contact information 190, technical contact information 192, email address & phone number for the various store contacts 194.



The central host computer 12 also stores the advertisement database 16. The advertisement database 16 contains all the advertisements that may be shown at a particular lane. Figure 6 illustrates in more detail the structure of the advertisement database 16. As shown in Figure 6, the advertisement database 16 includes at the lane level, in a specific store, which is part of a particular retail chain 132: an advertisement 134, advertisement dimensions 136, file size 138, location of advertisement on the screen 140, type of advertisement 142(i.e., banner, "lane closed"), e-mail contacts for advertisement 144, and an accounting code 145.

The central host computer 12 also stores group data 18 in a group database. Figure 7 shows an example of a group database 18 according to the present invention. Group data is customizable by the advertiser. Group data can contain any combination of stores, lanes and even other groups. Groups are assigned a playlist (schedule of ads) to be sent via the network to every store contained in that group. For example, a group may comprise stores in an affluent area, stores near sporting events, or stores in particular ethnic areas, or other configurations that are customizable by the store owner. Group lists may be modified at the lane level. For example, a group may consist of all the express lanes in all stores near a sporting event. As shown in Figure 7, an exemplary group database for a particular retail store having express lanes in stores near sporting events 150. This group database comprises a store number 152, which is located near a football arena 154, and an express lane within that store 156. The group database includes the next store 158, located near another football arena 160, which also has an express lane 162. By organizing the data in this manner, the group databases may be used to determine where to display the advertisements.

Next, the central host computer 12 stores playlists 20. The playlists 20 are groups of advertisements, and the advertisement logic determining when each advertisement is displayed on a display 72. Figure 4 illustrates the structure of the playlist 20. For example, a

group of products geared towards people interested in sporting events would be advertised on the lanes in stores near sporting events. The playlists are created on a lane-by-lane basis for each store and are customizable by the user. Playlists preferably consist of two types of advertisements: (1) scheduled advertisements, based on a rotation of date/time or rotation, or  
5 (2) triggered advertisements, which comprise advertisements based on a demographic code obtained from a customer card or based on the items purchased.

Various priority systems are contemplated for determining the chosen advertisements to display according to the playlists. For example, preferably, the highest priority is when a customer card is used, an advertisement corresponding to that customer's demographics will  
10 be displayed. Next in priority will be whether a triggering item is purchased. If no customer card is used, and an item is purchased that corresponds to an advertisement in the playlist for that check-out lane, then the triggered advertisement will display. If no customer card is used and no triggering advertisement is purchased, then an advertisement based on the date and time will display.

15 Furthermore, other variations in the order of displaying advertisements are contemplated. For example, an advertisement may only display for a predetermined period of time. Therefore, if no customer card is used, a first triggering item may trigger the display of an advertisement for 30 seconds. If the sales transaction continues beyond 30 seconds, another advertisement will display when the next triggering item is purchased after the 30  
20 second period has elapsed.

Each playlist 20 is categorized by retail store chain, a specific store in that chain, and a specific lane in the store 170. The playlist 20 includes an advertisement 172, a code associated with customer criteria 174, a code associated with a triggering item purchased 176, and a date and time code 178. A playlist will include a plurality of advertisements with  
25 associated codes outlining the criteria of when to play the advertisement 172.

The playlist builder 28 will generate an individual playlist for each lane in a store and transmit 30, 36, 44 the playlists 20 via the Internet to each store controller 46 including the advertisements and display criteria for displaying the advertisements for the respective lane. Playlists 20 may be generated on a daily, weekly, or monthly basis, or other schedule that is user defined.

An accounting/reporting system 13 is also included in the central host computer 12. The accounting and reporting system 13 will receive reports 32, 38, 44 from the retail host computers 40 and the store controllers 46 regarding which advertisements have been displayed, where the advertisements have been displayed and when. The advertising reports may issue daily, weekly, or on some other customizable basis. Such accounting reports are received, stored, and reported by the central host computer 12. Reporting can be sent to advertisers via email 24 or made accessible to advertisers via an Internet website 26 that is password accessible. Through the reporting website 26, the advertiser may also be able to enter information into the system regarding updates or changes to the advertisement criteria.

Once the playlists are created on the central host computer 12, they are down-loaded to the retail host computer 40. The retail host computer 40 is connected 44 to at least one store controller 46 associated with that particular retail store chain. The playlists may also be stored at the individual store controllers 26. The respective store controllers 46 are computers physically located at each store site and typically use the IBM 4690 retail store operating system or the like. The advertisement system of the present invention is preferably written in JAVA to operate with the store controller 46 retail store operating software. The application running on the store controller 46 is called the playlist reader 54 (see Figure 2, discussed below). The playlist reader 54 determines which advertisements to display at the point-of-sale.

Each store controller 46 controls at least one register 50. The register 50 of Figure 1 represents the hardware and software located at the point-of-sale. Figure 2 illustrates the components of register 50 and the store controller 46 in more detail. Each store controller 46 preferably has a separate mirrored store controller 46(a) for system redundancy and back-up purposes. The store controller 46 also holds an item record file 56 and an advertisement display file 58 which record what advertisements have been displayed and what items have been advertised. The playlist reader 54 operates on the store controller 46 and controls which advertisements are shown on the display 72. The playlist reader 54 communicates with a terminal application 60 operating at the point-of-sale.

The terminal application 60 controls the hardware components at the check-out counter or lane: the weight/scale 62, the printer 64, the scanner 66, the card reader 68, the cash register 70, and the display 72. The display 72 is shown in more detail in Fig. 8, discussed in more detail below. In the preferred embodiment, the display 72 comprises a 12.1-inch LCD flat panel display having a more modern appearance and takes up less space. However, it is also contemplated that the display may be any traditional VGA display.

The terminal application 60 receives data from the scale 62 used for calculating costs for items which need to be weighed. In the preferred embodiment, the display constantly represents the present weight on the scale in the lower right hand corner of the display 72. The terminal application 60 receives data from the scanner 66 representing items being purchased. A card reader 68 also communicates with the terminal application 60 to determine whether a customer card has been "swiped" or used by the customer. The playlist reader 54, in order to choose an advertisement from the playlist, uses information corresponding to the items being purchased and the customer card. The terminal application 60 also controls the cash register 70 as is well known in the art.

The terminal application 60 controls the contents of the display 72. One example of the layout is shown in Fig. 8. Two areas 80, 84 are used to display advertisements, which may be text only, static, animated, or any design configuration that the user desires. Separate advertisements or coordinated advertisements may be shown in these locations. A portion of the display 82 is dedicated to the scrolling receipt that shows the items being purchased, costs, and a running summary of the total amount of the purchase. The date and time may also be shown on 86. The IBM 4690 retail operating system, or the like, controls this data as is well known to those of ordinary skill in the art.

A current weight on the scale 62 is always shown. In the preferred embodiment, if the checkout lane is closed, the display 72 will display "lane closed" or the like. The appearance of the display 72 and location of advertisements, the scrolling receipt, scale weight, or date/time may be modified to any location on the display and all such variations of the display of Fig. 8 are contemplated as within the scope of the present invention. Furthermore, one or more advertising panels 80, 84 may be displayed, and the present invention is not limited to the two shown in Fig. 8.

Figure 3 illustrates the preferred process flow of the program in a typical sales transaction at the point-of-sale. First, a new sale transaction begins 102 and the system displays a default advertisement 104. The initial advertisement to display is determined by the terminal application 60 performing a query to the playlist reader 54 running on the store controller 46. The playlist reader 54 will read the playlist 20 and determine the correct advertisement to display based on date and time, and the correct advertisement is passed to the terminal application 60 to display. If there is no advertisement scheduled according to the date and time, the default advertisement, which is defined in the advertisement database 16, is passed to the terminal application 60 to display. The default advertisement may be chosen, for example, based on date and time or on a rotation system.

The system updates an advertisement log in the store controller 46 each time it displays a new advertisement. An advertisement flag is used to control the process branching. The advertisement flag is set to "off" 106 before any items are scanned by the scanner 66 or card reader 68. As the sales transaction proceeds, the system looks for scanned items 108, which can either be products purchased as scanned from the scanner 66 or the card reader 68. Next, the system determines whether the advertisement flag has been set to "on" 110. Checking the advertisement flag at this point insures that the advertisement does not change multiple times during the short sales transaction period, which is typically between 30 seconds and 2.5 minutes. For example, if the advertisement flag has been set to "on," the program will continue scanning 112 items purchased from the scanner 66 until the sales transaction is complete 114. The system then prepares for the next new transaction 102.

If the advertisement flag is not set to "on," the program determines whether the item scanned is a loyalty card or customer card 116. The customer card may be scanned either using the scanner 66 or a card reader 68. Although step 110 indicates determining whether the advertisement flag is "on," it is contemplated that determining whether the advertisement flag is "off" is included as within the scope of this invention. Step 110 determines whether the flag is "off," and if the flag is "off," the process determines whether the customer card has been used 116, and if the flag is not "off," the process continues scanning items 112 until the transaction is complete.

If the customer uses a customer card 116, the terminal application 60 passes a demographic code 118 associated with that customer to the playlist reader 54 on the store controller 46. The playlist reader 54 reads the playlist and chooses an advertisement based on the demographic code and sends the advertisement to the terminal application 60 (not shown in Figure 3). In choosing the corresponding advertisement to display, an advertiser's regular electronic marketing, loyalty program or customer relationship management data may be

coordinated to prepare the demographic code 118. The chosen advertisement based on the demographic code is displayed on the display 120 and the advertisement flag is set to "on" 122. The system updates advertisement log on the store controller 122 with the information regarding the displayed advertisement. The system then continues to scan for items 108 as set forth above.

If the item scanned is not a loyalty card or customer card 116, then the system determines whether the item scanned triggers an associated advertisement 124. A triggering item will have a predetermined association between the item scanned (being purchased) and the advertisement. For example, if a customer is purchasing shaving cream, the associated advertisement may be for razor blades. The association criteria are user defined. If the item scanned has an associated advertisement, the terminal application 60 will request the associated advertisement from the playlist reader 54, which will review the playlists and respond with the associated advertisement to be displayed 126. The system sets the advertisement flag to "on" 128 and updates the advertisement log on the store controller 46 with the information associated with the new advertisement 128. The point-of-sale system then prepares to receive the next scanned item 108.

If the item scanned does not trigger an associated advertisement 124, the point-of-sale system continues to display the default advertisement and looks for the next scanned item 108. Therefore, when the system changes the default advertisement upon scanning a customer card or a the customer purchasing a triggering item, setting the advertisement flag to "on" insures that the same advertisement remains displayed throughout the sales transaction.

As discussed above, in the preferred embodiment of the invention, the advertising decision is prioritized based on the use of a customer card, and next a triggering item purchased, and finally, using a date and time criteria. According to a second embodiment of

the present invention, prior to changing the advertisement from the default advertisement 104, the system will check to determine whether the customer card or triggering item has been scanned at the beginning, middle, or end of the transaction. If the triggering card or item is scanned at the end of the transaction such that there is not sufficient time to display the advertisement, then the default advertisement will continue to display through the end of the transaction. For example, if the average transaction takes 1.5 minutes to complete, a timer beings at the beginning of each transaction 103, and when a customer card is scanned 116 after 1 minute has elapsed, the default advertisement continues to display. Similarly, if no customer card is used, but a purchased product triggers an advertisement after 1 minute from the beginning of the transaction, then the system would continue to display the default advertisement. In this manner, when only a short time remains in the transaction for the customer to view the advertisement, the default advertisement will continue to show.

As a further feature of the second embodiment of the invention, when no customer card is used, a triggering item near the beginning of the transaction, for example, within the first 30 seconds, may cause an advertisement to be displayed. Then after a predetermined period of time of displaying the first triggered advertisement, such as 45 seconds, the system will look for another triggering item. Then if the customer purchases another triggering item after the predetermined period of time, the system displays a new advertisement for the remainder of the transaction or for another predetermined period of time.

Although the above description and exemplary embodiments are very specific, these should not be construed as limiting the scope of the invention to these embodiments. The above examples merely provide illustrations of some of the presently preferred embodiments of the invention. For example, the system above is described as only using one display per lane. However, any number of displays could be used at the lane or in other parts of a store, on a wired or wireless basis. For example, the system could include a second display



positioned at the beginning of a check-out lane that displays advertisements based on the date and time criteria. This second display would be viewed by customers waiting in line, while the system would control a display near the cash register according to the description above.

with the advertising priorities according to customer card use, triggering items being

5 purchased, and date and time. In the dual-display above system, a different playlist would be built for the secondary display and the first display. Sound could also be added to the advertisements to present another dimension to the presentation.

Thus the scope of the invention should be determined by the appended claims and their legal equivalents, rather than by the examples given.

We claim:

1. A point-of-sale advertisement system, comprising:

a host computer storing a store/lane database, an advertisement database, a group database, and a playlist builder;

5 a store controller communicating with the host computer and storing playlists built and transferred from the host computer, each playlist comprising a group of advertisements and advertisement logic that determines where and when each advertisement is to be displayed, the store controller operating a playlist reader; and

10 at least one terminal application operating at a point-of-sale unit, communicating with each of the store controller and controlling at least one display at the respective point-of-sale, wherein the at least one terminal application requests from the playlist reader which advertisements to display and the playlist reader communicates a chosen advertisement from the playlist to the terminal application, which displays the chosen advertisement.

15 2. The point-of-sale advertisement system of claim 1, wherein the playlist reader determines the chosen advertisement to communicate to the terminal application based on the date and time to display the chosen advertisement.

20 3. The point-of-sale advertisement system of claim 1, wherein the playlist reader determines the chosen advertisement to communicate to the terminal application based on whether an item purchased at the point-of-sale unit corresponds to an advertisement in the playlist.

4. The point-of-sale advertisement system of claim 1, wherein the playlist reader determines the chosen advertisement to communicate to the terminal application based on whether a customer uses a customer card at the point-of-sale unit.

5 5. The point-of-sale advertisement system of claim 1, wherein the playlist reader determines the chosen advertisement to communicate to the terminal application based a priority system comprising whether a customer uses a customer card at the point-of-sale unit, the items being purchased, and the date and time.

10 6. The point-of-sale advertisement system of claim 5, wherein the playlist reader determines the chosen advertisement to communicate to the terminal application based on whether the customer has used a customer card, and if a customer has not used a customer card, then the advertisement is chosen based on whether an item purchased triggers an advertisement, and if no item purchased triggers an advertisement, then the advertisement  
15 chosen depends on the date and time.

7. The point-of-sale advertisement system of claim 5, wherein the point-of-sale unit further comprises a cash register, scanning device for scanning items purchased and a customer card reading device.

20 8. The point-of-sale advertisement system of claim 7, wherein the at least one store controller receives a customer identification number from the customer card reading device, and receives information corresponding to the items presently being purchased from either a cash register or the scanning device.

9. The point-of-sale advertisement system of claim 3, wherein the playlist reader determines the chosen advertisement to communicate to the terminal application based on whether the item purchased that triggers an advertisement from the playlist is purchased near the beginning of a sales transaction, and if no item purchased at the beginning of the sales transaction triggers an advertisement from the playlist, then the playlist reader chooses an advertisement based on the date and time.

10. The point-of-sale advertisement system of claim 1, wherein the at least one display comprises a respective display area and the chosen advertisement is displayed at the top and bottom of the display area.

11. The point-of-sale advertisement system of claim 10, wherein the at least one display further displays in the display area information corresponding to weight and a sales transaction.

12. The point-of-sale advertisement system of claim 1, wherein the host computer is a central host computer and the central host computer communicates to the store controller through a retail host computer connected to the central host computer and the store controller.

13. The point-of-sale advertisement system of claim 12, wherein the central host computer further stores customer profiles.

14. The point-of-sale advertisement system of claim 13, wherein the central host computer further stores an accounting program.

15. The point-of-sale advertisement system of claim 3, wherein if the customer purchases more than one triggering item, the advertisement displayed corresponds to the first triggering item purchased.

16. The point-of-sale advertisement system of claim 1, wherein the at least one display comprises a first and a second display, the first display located at the point-of-sale and the second display positioned to be viewed by customers waiting to arrive at the point-of-sale, wherein the terminal application displays advertisements as instructed from the playlist reader on the first and second display.

17. The point-of-sale advertisement system of claim 16, wherein the first display and the second display each have a different corresponding playlist, and the terminal application displays advertisements as instructed from the playlist reader on the first and second display based on a priority system using date and time, triggering item purchased, and customer demographics information.

18. The point-of-sale advertisement system of claim 17, wherein the priority system instructs the playlist reader to display on the second display an advertisement corresponding the date and time.

19. The point-of-sale advertisement system of claim 18, wherein the priority system instructs the playlist reader to display on the first display an advertisement corresponding a customer demographic if a customer uses a customer card, and if no customer card is used, the playlist reader displays an advertisement based on a triggering items purchased, and if no item triggers an advertisement, the playlist reader would be displayed according to the date and time.

20. A point-of-sale advertisement system comprising:

a central host computer storing advertisement data associated with a plurality of advertisements to be displayed;

at least one retailer host computer communicating with the central host computer;

5 at least one a store controller communicating with the respective at least one retail host computer, each store controller operating a playlist reader; and

a point-of-sale check-out unit comprising:

a display;

a cash register;

10 a customer card reading unit;

a product identification unit; and

a controller communicating with the display, cash register, customer card reading unit, product identification unit and the at least one store controller,

15 the point-of-sale check-out unit operating a terminal application which communicates with the at least one store controller to receive instructions on which advertisements to display based a combination of customer identification data associated with a customer card, products purchased as identified by the product identification unit, or the date and time of the purchase.

21. A method of advertising on a display located at a point-of-sale location, the method comprising:

building a playlist for each of a plurality of point-of-sale lanes, the playlist comprising groups of advertisements and control criteria regarding when and where to display the

5 advertisements; and

downloading the playlist from a host computer to a store controller, wherein during a sales transaction, if a customer uses a customer card:

acquiring the identification of a customer;

retrieving from a first database a profile of the identified customer;

10 retrieving from a second database an advertisement corresponding to the customer profile; and

displaying the customer profile advertisement on the display, and if the customer does not use a customer card:

acquiring information corresponding to each item purchased;

15 retrieving from a third database an item purchased advertisement corresponding to the first item purchased that triggers the retrieval of an advertisement; and

displaying the item purchased advertisement on the display, and if no item purchased triggers the retrieval of an advertisement:

20 retrieving from a fourth database a date/time advertisement corresponding to the date and time; and

displaying the date/time advertisement on the display.

22. The method of advertising of claim 21, wherein

displaying the customer profile advertisement only occurs if the customer uses a customer identification card at the beginning of the transaction, and if the customer uses the customer identification card at the end of the transaction, the method comprises displaying the item purchased advertisement if a purchased item triggers the retrieval of an advertisement; and if no item purchased triggers the retrieval of an advertisement, displaying the date/time advertisement.

23. A method of displaying an advertisement in an electronic system comprising a store controller and a point-of-sale unit having a scanning unit and a display, the method comprising:

displaying a default advertisement on the display at the beginning of a new sales transaction;

turning an advertisement flag off;

scanning an item at the point-of-sale unit with the scanning unit;

determining whether the advertisement flag is on or off, and if the advertisement flag is on, continuing to scan items to purchase until the sales transaction is complete, and if the advertisement flag is off, determining whether a customer card has been scanned, and if a customer card has been scanned:

displaying on the display an advertisement associated with the customer;

turning the advertisement flag on; and

scanning the next item,

and if a customer card has not been scanned:

determining whether an item purchased is associated with an advertisement,

and if an item purchased is associated with an advertisement:



displaying an advertisement associated with the item purchased on the display;  
turning the advertisement flag on; and  
scanning the next item,

and if an item purchased does not have an associated advertisement:

5 scanning the next item.

24. The method of displaying an advertisement of claim 23, further comprising  
updating an advertisement log each time a different advertisement is displayed.

10 25. The method of displaying an advertisement of claim 23, wherein the store  
controller stores at least one playlist and runs a playlist reader, and the step of displaying an  
advertisement associated with a customer further comprises:

passing a demographics code associated with the customer card to the playlist reader  
on the store controller;

15 determining, using the playlist reader, which advertisement to display from the at least  
one playlist; and

transmitting the chosen advertisement information to the point-of-sale unit to display  
the advertisement.

20 26. A method of displaying an advertisement in an electronic system comprising a  
store controller and a point-of-sale unit having a scanning unit and a display, the method  
comprising:

displaying a default advertisement on the display at the beginning of a new sales  
transaction;

25 scanning an item at the point-of-sale unit with the scanning unit;

displaying an advertisement associated with a customer demographic if the customer uses a customer card; and

displaying an advertisement associated with an item purchased if the customer purchases an item associated with an advertisement and if the customer does not use a  
5 customer card.

27. The method of displaying an advertisement in an electronic system of claim 26, further comprising:

before scanning an item, setting an advertising flag to off, and after scanning an item,  
10 completing the sales transaction without changing the advertisement on the display if the advertisement flag is set to on.

28. The method of displaying an advertisement in an electronic system of claim 27, wherein displaying the default advertisement is based on the date and time.

15

29. The method of displaying an advertisement in an electronic system of claim 28, further comprising updated an advertisement log after a different advertisement is displayed.

30. The method of displaying an advertisement in an electronic system of claim 25, wherein displaying an advertisement associated with a customer if the customer uses a  
20 customer card further comprises updating an advertisement log.

31. The method of displaying an advertisement in an electronic system of claim 29, wherein after displaying an advertisement associated with an item purchased the method  
25 further comprises:

continuing to scan items until the transaction is complete, and if no items purchased trigger an associated advertisement, scanning the next item.

32. The method of displaying an advertisement in an electronic system of claim 26,  
5 further comprising:  
reporting the displayed advertisements to the store controller.

33. The method of displaying an advertisement in an electronic system of claim 32,  
further comprising:  
10 reporting from the store controller the displayed advertisements to a host computer;  
and  
transmitting to an advertiser a report of which advertisements displayed when on the  
display.

15 34. The method of displaying an advertisement in an electronic system of claim 33,  
further comprising:  
displaying reporting information and on a password accessible internet site for  
advertisers.

35. A point-of-sale advertisement system operating on a retail operating system, the retail operating system comprising a host computer, a store controller, and at least one a point-of-sale unit, each at least one point-of-sale unit having at least a display, a cash register, a scanner, a card reader, and a printer, the point-of-sale advertising system comprising:

5 a store/lane database, an advertisement database, a group database, and a playlist builder stored on the host computer;

at least one playlist stored on the store controller, each at least one playlist built by the playlist builder and transferred from the host computer, each playlist comprising a group of

10 advertisements and advertisement logic that determines where and when each advertisement is to be displayed;

a playlist reader operating on the store controller; and

a terminal application operating at each at least one point-of-sale unit, the terminal application communicating with the store controller and controlling the display,

15 wherein the terminal application requests from the playlist reader which advertisements to display and the playlist reader communicates a chosen advertisement from the playlist to the terminal application, which displays the chosen advertisement.

36. The point-of-sale advertisement system of claim 35, wherein each at least one

20 playlist is built to correspond to one of the at least one point-of-sale units, and wherein each playlist reader chooses an advertisement from the playlist according to a predetermined priority of whether a customer card is used, an item being purchased triggers a corresponding advertisement, or the date and time.

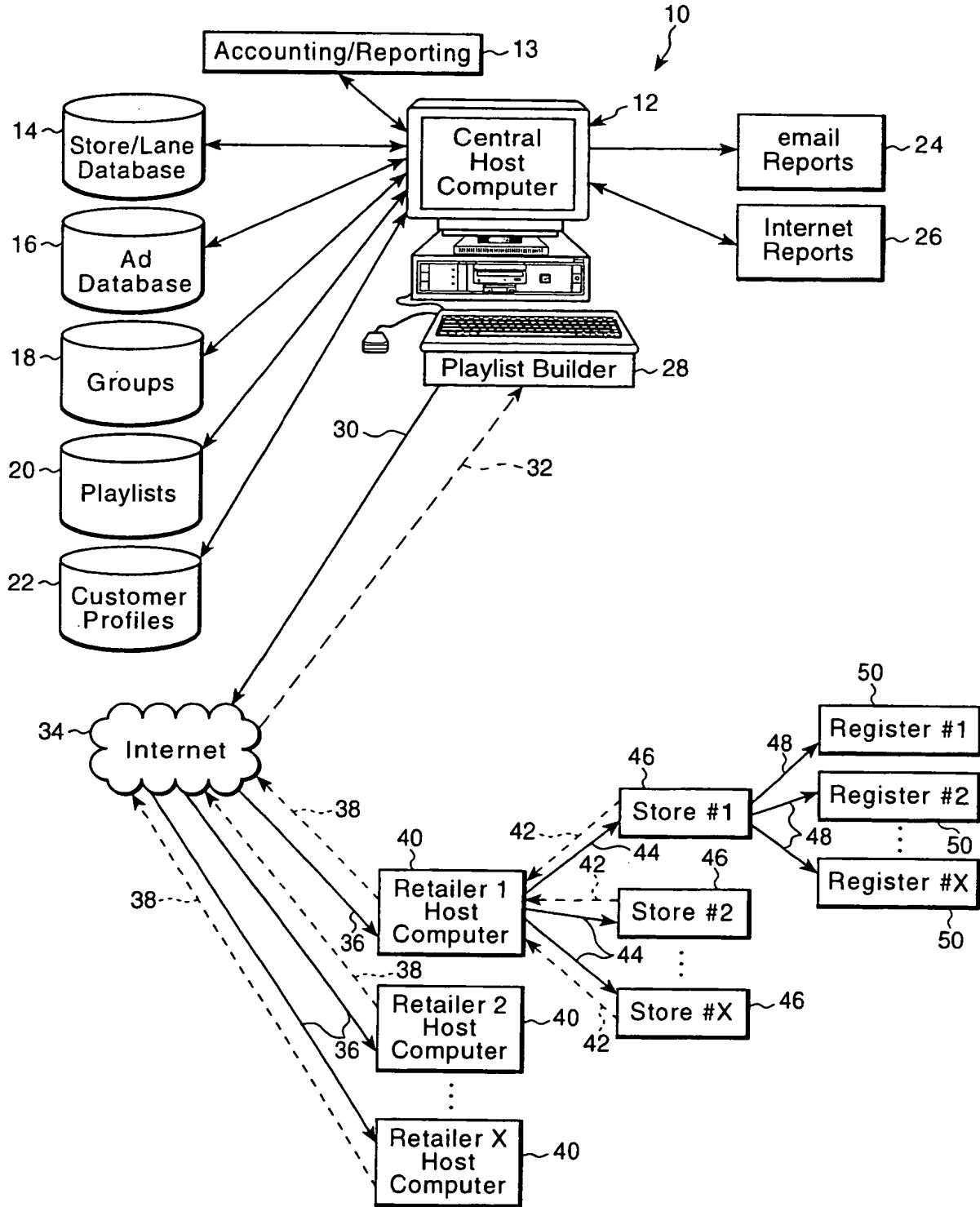
37. The point-of-sale advertisement system of claim 36, wherein the predetermined priority order requires an advertisement to display that is associated with the customer if the customer uses a customer card, and if the customer does not use a customer card, displaying an advertisement associated with an item being purchased if a purchased item triggers an advertisement, and if no item purchased triggers an advertisement, displaying an advertisement based on the date and time.

38. The point-of-sale advertisement system of claim 3, wherein the playlist reader determines the chosen advertisement based on whether an item purchased at the point-of-sale unit corresponds to an advertisement in the playlist and when the triggering item was purchased during the sales transaction.

39. The point-of-sale advertisement system of claim 38, wherein the chosen advertisement is displayed for a predetermined period of time, and if the sales transaction continues beyond the predetermined period of time, a new chosen advertisement is displayed based on the next triggering item purchased after the predetermined period of time.

40. The method of displaying an advertisement of claim 23, wherein displaying a default advertisement further comprises displaying a predetermined advertisement as the default advertisement if no advertisement based on the date and time is scheduled.

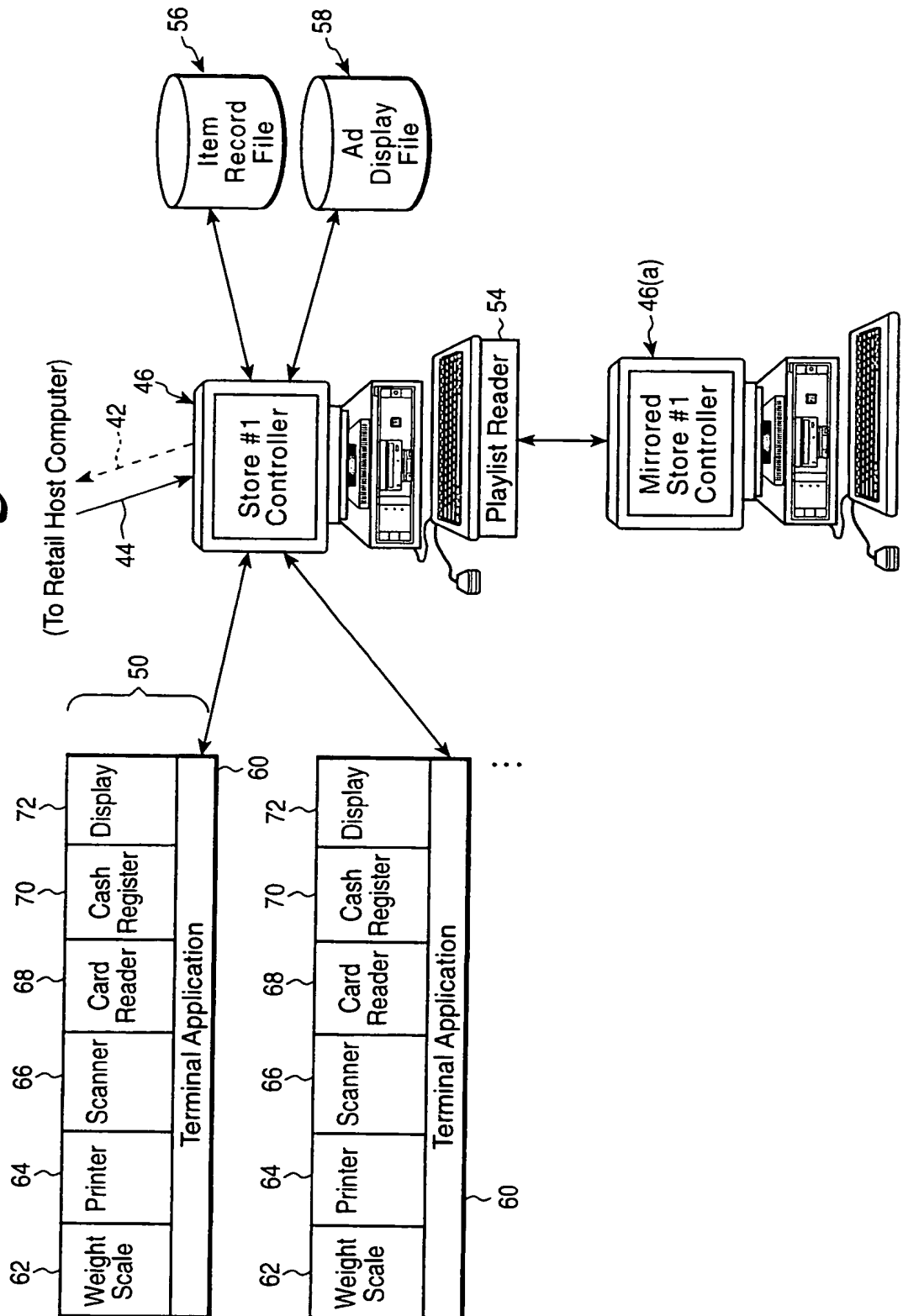
1/5

*Fig. 1*

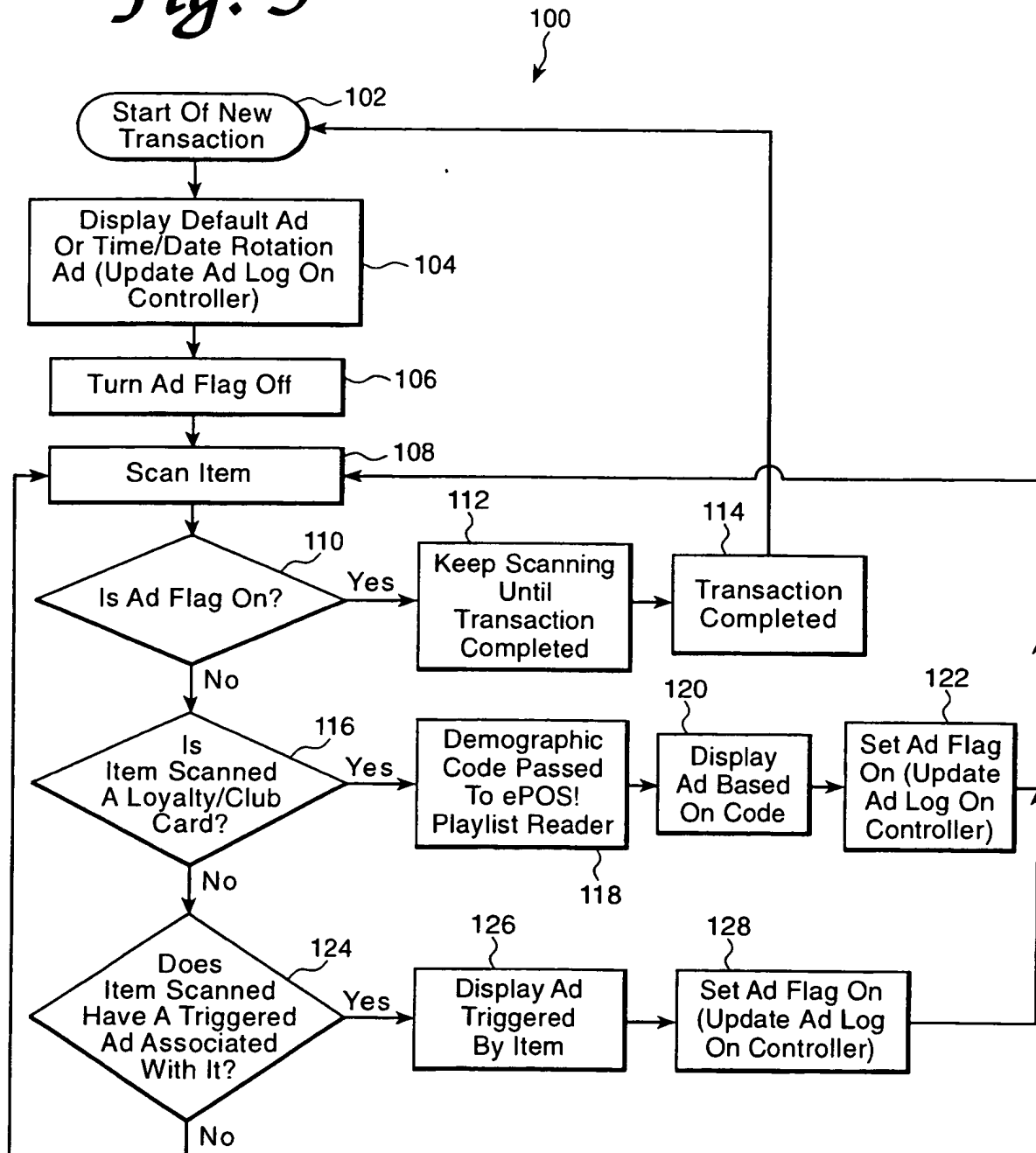
Point-Of-Sale Advertising System

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Fig. 2

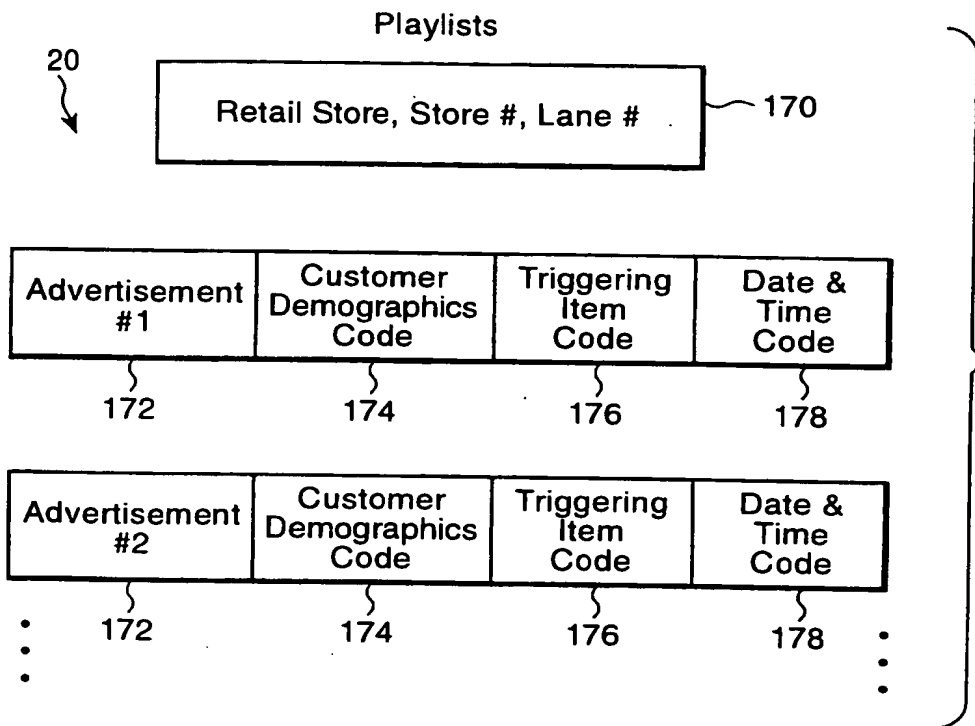
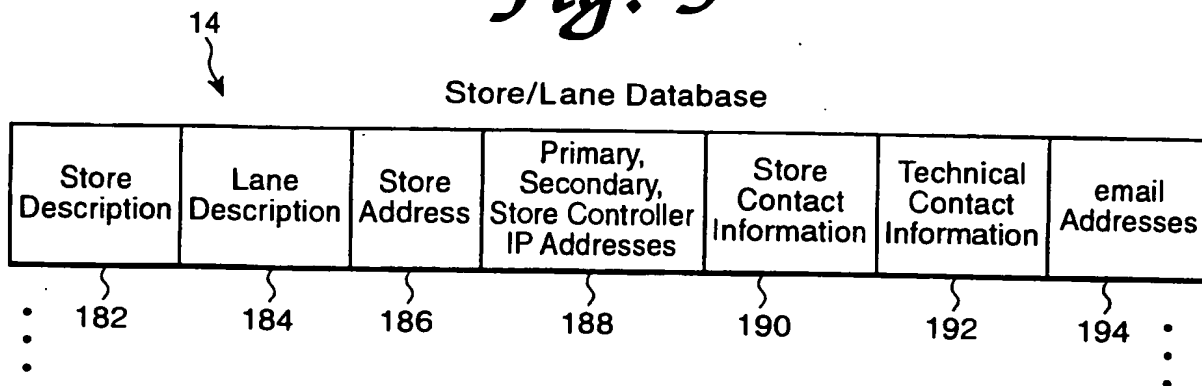


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*Fig. 3*



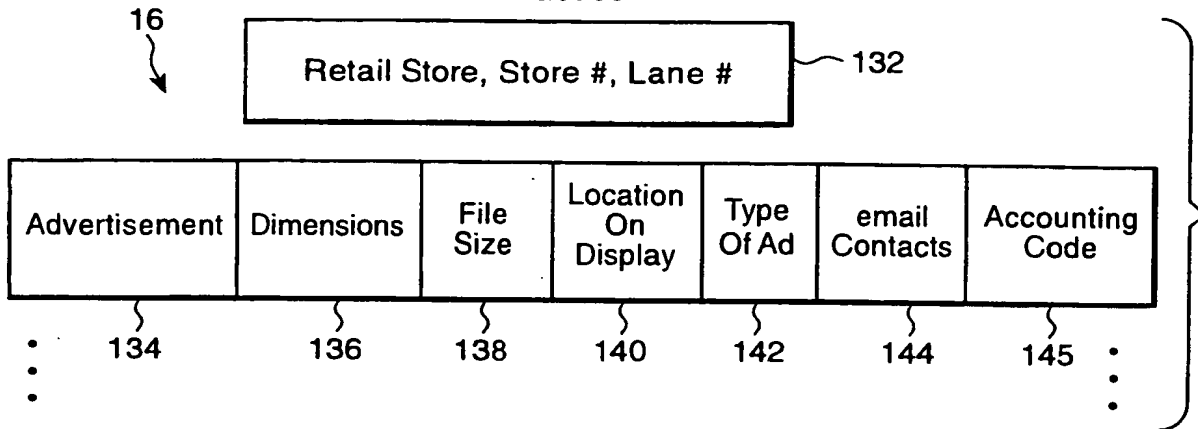
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*Fig. 4**Fig. 5*

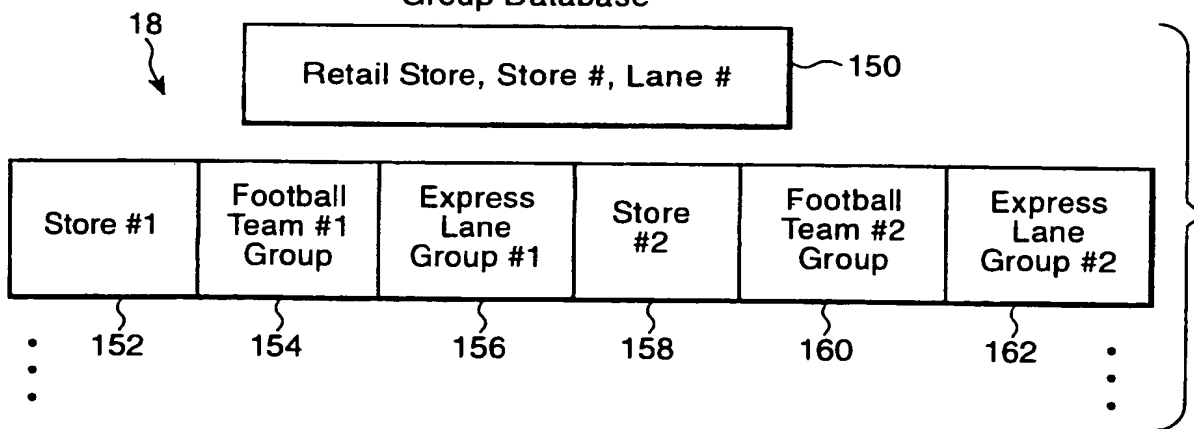
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*Fig. 6*

Ad Database

*Fig. 7*

Group Database

*Fig. 8*